

Name: _____ Period: _____ Date: _____

How to read inequalities. Start with the variable, read through the symbol to the number.

Correct: $-2 < x$ The variable x is greater than negative two.

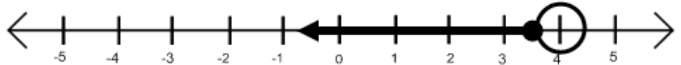
Correct: $4 > (x - 3)$ The difference between x and 3 is less than 4.

Correct: $x \leq -1$ The variable x is less than or equal to negative 1.

Reading is the most common error with inequalities.

Multiplication and Division with a Negative Coefficient	
$-2x < 12$	Solve to isolate the variable x.
Solution $\frac{-2x}{-2} < \frac{12}{-2}$ $x > -6$ <i>x is greater than a negative six.</i>	Division with a Negative Coefficient 1. Divide by -2 to both sides of the inequality 2. Then switch the less than symbol for the greater than symbol .
$10 < -\frac{x}{3}$	Solve to isolate the variable x.
$10 \cdot (-3) < -\frac{x}{3} \cdot (-3)$ $-30 > x$ $x < -30$ <i>x is less than a negative thirty.</i>	Multiplication with a Negative Coefficient 1. Multiply by -3 to both sides of the inequality 2. Then switch the greater than symbol for the less than symbol . 3. Rewrite the inequality with the variable on the left.

Solve if necessary and then draw the inequality. Write the statement in words "*less than* "

Ex	$-4x > -16$ -4 is greater than -16	Draw the Number Line Here
	$\frac{-4x}{-4} > \frac{-16}{-4}$ $x < 4$ <i>Switch the symbol</i> The variable x is less than 4.	$x < 4$  <i>"x is less than 4"</i>

1	$-5x \geq 20$	Draw the Number Line Here

2	$-25x < -100$	Draw the Number Line Here

3	$-\frac{1}{4}x \leq 10$	Draw the Number Line Here

4	$-5 < \frac{-x}{3}$	Draw the Number Line Here

5	$-2x - 1 < 9$	Draw the Number Line Here